

REMARKS

The Office Action mailed on March 20, 2006, has been reviewed and the comments of the Patent and Trademark Office have been considered. Prior to this paper, claims 1-10 were pending, with claim 4 being withdrawn. By this paper, Applicant does not cancel any claims, and adds claims 11-12. Therefore, claims 1-12 are now pending.

Applicant respectfully submits that the present application is in condition for allowance for at least the reasons that follow.

Indication of Allowable Subject Matter

Applicant thanks Examiner Ho for the indication that claims 6 and 7 contain allowable subject matter.

Rejections Under 35 U.S.C. § 102

Claims 1-3, 5 and 8-10 stand rejected under 35 U.S.C. §102(e) as being anticipated by Nakamori (United States Patent No. 6,799,109).¹ In response, Applicants respectfully submit that the above claims are allowable for at least the reasons that follow.

Applicants rely on MPEP § 2131, entitled “Anticipation – Application of 35 U.S.C. 102(a), (b), and (e),” which states that a “claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” Section 103 amplifies the meaning of this anticipation standard by pointing out that anticipation requires that the claimed subject matter must be “*identically* disclosed or described” by the prior art reference. (Emphasis added.) It is respectfully submitted that Nakamori does not describe each and every element of any of independent claims 1, 8, 9 and 10, and, thus none of the other claims, which ultimately depend from claim 1.

¹ Applicant does not concede that Nakamori is prior art with respect to the present application.

Claim 1 recites a motor torque control system for a vehicle equipped with a motor, comprising, among other elements, a brake depression detector that detects a brake manipulated quantity indicative of a depression state of a brake of the vehicle, and a control arranged to bring a motor torque of the motor to zero when the following three conditions are met: (1) the vehicle speed is lower than a predetermined speed, (2) the accelerator opening is substantially zero, and (3) the brake depression state is set at a ***braking increasing state increasing a braking force of the vehicle.***

An embodiment of the invention of claim 1 addresses the fact that it is not necessary to output motor torque while a driver is attempting to stop a vehicle. In this regard, in an exemplary embodiment of the invention of claim 1, the vehicle is a hybrid vehicle, and when the control system determines that a driver intends to, for example, stop a vehicle, based on a determination that the brake depression state is in a condition that braking force is ***increasing***, the controller quickly brings a motor torque command value to zero. In this exemplary embodiment, the controller suppresses excess electric-power consumption used to output torque, as the power consumption is not necessary in view of the driver's desire to stop the vehicle. Moreover, unlike other power management systems, the operation of bringing the motor torque to zero is not executed if the brake depression state ***is not in the braking increasing state*** even if the vehicle speed is lower than the predetermined speed and the accelerator opening is substantially zero.

Nakamori does not teach the above-recited features of claim 1. True, Nakamori does teach detection of whether a brake pedal has been depressed, utilizing a *binary* sensor ("on" or "off" signal from Nakamori's brake sensor 22). However, the brake sensor utilized by Nakamori does not and cannot detect whether a brake depression state is that of ***increasing a braking*** force on the vehicle. Indeed, the Office Action recognizes this deficiency of Nakamori, because, in addressing this feature of claim 1, all the Office Action recites is that "when the brake pedal is depressed," meets this recitation. Not so, because for a reference to anticipate a claim, the claimed subject matter must be *identically* disclosed or described in that reference. Because Nakamori does not teach setting a torque to zero when the brake depression state is set at a braking increasing state of increasing a braking force of the vehicle, the invention of claim 1 is not identically disclosed in Nakamori. Reconsideration is requested for at least this reason, but there is more.

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Claim 1 also recites that the controller is arranged to generate the motor torque according to the brake manipulated quantity when the brake depression state is set at a ***braking decreasing state decreasing a braking force of the vehicle***. In an exemplary embodiment of this feature, when the vehicle starts running on an upslope, and the brake depression quantity is decreased so as to decrease the brake force, the motor torque according to the brake depression quantity is generated, and, therefore, the backwards (down the upslope) movement of the vehicle is prevented. Again, Nakamori merely utilizes a binary sensor to detect the presence / absence of brake pedal depression. Thus, Nakamori's brake sensor cannot detect a state that the depression quantity of the brake pedal (braking force) is ***decreasing***. Therefore, yet another feature of claim 1 is not present in Nakamori.

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Claims 8, 9 and 10 are allowable for at least the pertinent reasons that make claim 1 allowable, just detailed. The claims that depend from claim 1 are allowable at least due to their dependency from claim 1.

Rejoinder of Claim 4

Claim 4 stands withdrawn. Applicant notes that this claim depends from claim 3, which in turn depends from claim 1. Applicant respectfully requests that claim 4 be rejoined and allowed due to its dependency from either of claims 1 and 3, as at least one of these claims is allowable, as detailed above. Applicants respectfully submit that no significant burden is placed on the PTO by rejoining and examining these claims. Indeed, such action is concomitant with the indication that "upon allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim."

New Claims

As seen above, Applicant has added new claims 11 and 12. These claims are also allowable for the pertinent reasons detailed above with respect to claim 1. For example, the cited reference does not teach a control unit in communication with the vehicle speed sensor, the accelerator sensor, and the brake force sensor, wherein the control unit is adapted to control the motor to bring motor torque of the motor to zero when (i) the vehicle speed sensed is lower than a predetermined speed, (ii) the phenomenon indicative of a command to accelerate the vehicle has not been sensed, and (iii) the command increasing the magnitude of the brake force has been sensed, and wherein the control unit is adapted to control the motor to output motor torque of the motor when a command decreasing the magnitude of the brake force has been sensed.

Support for new claims 11 and 12 may be found, among other places, in the claims as originally filed, as well as the specification at pages 6-9.

Conclusion

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check or credit card payment form being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. § 1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

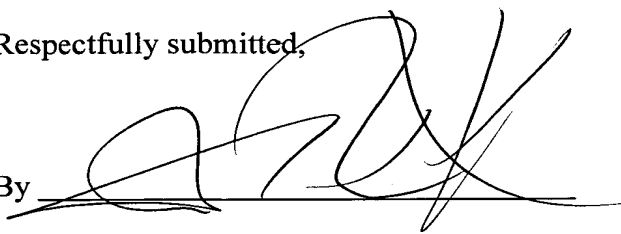
Examiner Ho is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

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Respectfully submitted,

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